

Appln. No. 09/516,800

Docket No. 12-1038

REMARKS

Claims 1-30 were submitted for reconsideration and reexamination and, in the aforementioned Office action, claims 1-30 were rejected as unpatentable under 35 U.S.C. §103(a) over Burch et al. (US 5,680,422) in view of Nah et al. (US 6,031,886), and further in view of Gaudet (US 6,285,726). By this amendment, independent claims 1 and 16 have been further amended to distinguish the invention more clearly over the cited art.

As indicated by the title of the present application, the claimed invention is concerned with a communication system that is asynchronous. That is to say, the communication channel 32 (FIG. 1) and the communication channel 232 (FIG. 3) are asynchronous channels that do not carry clock signals in the usual sense of that term, but only data and clock phase estimates encoded as data. The other aspect of the invention that is asynchronous is the process of resampling the received data at the receiving location. Because there is no common clock signal controlling operations at the sending and receiving locations, the resampling step proceeds independently, i.e., asynchronously, with respect to the signals transmitted from the sending location.

The Burch patent, by way of contrast, discloses a synchronous channel (20 in FIG. 1, 62 in FIG. 6) through which both data and synchronizing signals are transmitted. Another significant difference is that Burch is concerned with problems that arise when handling multiple input data streams that are not initially synchronized, and which are synchronized by a bit-stuffing mechanism. Burch transmits the synchronized data streams through a synchronous channel, then desynchronizes them again at the receiving location. In the present invention, the multiple input streams are already

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synchronized. They are transmitted through an asynchronous channel and then recreated at the receiving location by a resampling technique controlled in part by clock phase difference estimates that are transmitted with the data.

Independent claims 1 and 16 have been amended to emphasize these differences, and in particular to recite that the communication channel is asynchronous. In addition, the "transmitting" step in each of these claims has been amended to delete the reference to transmitting "clock signals," because no clock signals are, in fact transmitted in the preferred embodiments of FIGS. 1 and 3. As described on page 4, lines 11-13, for example, the "Mux and Buffer 30 multiplexes the phase differences 28 with the data signal 18 and buffers and formats for asynchronous transport." In other words, no clock signals are transmitted.

Because the claims as amended are believed to be allowable over Burch et al., whether or not combined with other art, detailed discussion of Nah et al. and Gaudet appears to be unnecessary. Applicant concedes that Nah discloses generation of multiple phase clocks, although in a context of digital phase alignment apparatus, which seems to be unrelated to the asynchronous communication technique of the present invention. The Gaudet patent discloses a clock recovery technique and the Examiner asserts that the interpolator (106) of Gaudet is functionally equivalent to the resampler filter of the present invention. Applicant notes that the interpolator is used in the context of a clock recovery technique, in which a clock signal is extracted from data received over a local area network and is then used to sample and decode incoming data signals.

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Because this amendment is believed to place independent claims 1 and 16 in condition for allowance over the cited art, the dependent claims are also believed to be allowable with the claims from which they depend.

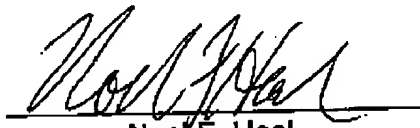
In summary, Applicant respectfully urges the Examiner to reconsider the applicability of the Burch reference in view of the foregoing remarks and amendments. If Burch is withdrawn as a reference, the Nah and Gaudet references are no longer sufficient to support a rejection. If the Examiner maintains a rejection based in part on Burch, Applicant respectfully contends that the secondary references pertain to different technical fields and none of the references provides any incentive to combine all three of them.

Applicant respectfully requests entry and consideration of this amendment under the provisions of 37 C.F.R. §1.116, since the amendment is believed to place the application in condition for allowance, or at least in better condition for appeal.

In view of the foregoing remarks, Applicant respectfully requests reconsideration and allowance of claims 1-30.

Respectfully submitted,

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